

REMARKS

This amendment is filed in response to the Office Action dated July 9, 2004, in which Claims 28-46 are allowed and claims 21-27 are rejected. Claims 21, 24 and 26 have been amended to more clearly describe the invention as claimed. Claims 25 and 27 are canceled without prejudice or disclaimer. Reconsideration and allowance of the rejected claims is requested.

Claims 21, 22 and 23 stand rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 5 and 14, respectively, of U.S. Patent No. 6,712,439 (the '439 patent). Applicants respectfully submit that claims 21, 22 and 23 of the present application do not claim substantially the same invention as that of claims 1, 5 and 14 of the '439 patent. However, to timely advance the prosecution of the application, Applicants submit herewith a terminal disclaimer under 37 C.F.R. 1.321(c). Accordingly, Applicants submit that the rejection of claims 21, 22 and 23 should be withdrawn.

Claims 24 and 26 stand rejected under 35 U.S.C. 102(a) as being anticipated by Anderson et al. (U.S. patent publication no. 2002/0163549 A1). Applicants respectfully submit that the Anderson et al. reference fails to teach the inventions of claims 24 and 26.

Claim 24, as amended, is directed to an ink jet printer having a printhead that includes a plurality of printing elements and a printhead control circuit coupled to the printing elements. The printhead control circuit is also coupled to first, second, third and fourth control lines that provide first, second, third and fourth control signals, respectively. According to claim 24, the printhead control circuit activates a selected one of the printing elements based on a particular combination of the first, second, third and fourth control signals. Because the activation of any particular printing element is dependent upon the states of four different control signals, claim 24 is directed to a four-dimensional addressing system.

In contrast, Anderson et al. describe a two-dimensional addressing scheme. With reference to Fig. 5 of the Anderson et al. reference, the selection of any particular one of the printing elements for activation (407) depends on only two signals provided to the nozzle logic circuits: a data signal (on line 502) and an enable signal (on one of the lines 708, 710, 712 or 714).

It is proposed in the Office Action that the controller clock (CCLK) signal on line 706 should be considered one of the four control signals of claim 24. Applicants respectfully disagree. As described in paragraph 0047 of the Anderson et al. reference, the CCLK signal on line 706 provides repeating groups of four sequential pulses to the nozzle firing controller (520) which operates as a ring counter. The four enable signals on lines 708, 710, 712 and 714 from the nozzle firing controller go high sequentially in correspondence to the leading edges of the four sequential pulses on the line 706. Thus, the CCLK signal on line 706 merely determines the timing of the enable signals. It does not provide a separate addressing dimension to the nozzle logic circuits that is independent of the enable signals.

It should also be noted that the fire signal on line 522 is not a control signal used by the printhead control circuit to select a particular printing element. As shown in Fig. 5, the fire signal on line 522 is provided to all of the nozzle logic circuits that are selected. Thus, the fire signal activates *all* of the printing elements that are selected at any particular time based on the data signals and enable signals. Accordingly, the fire signal does not provide another addressing dimension.

In summary, the Anderson et al. reference does not describe a printhead control circuit for activating a particular printing element based on a particular combination of four control signals. Since claim 24 requires a printhead control circuit that activates a particular printing element based on a particular combination of four control signals, claim 24 patentably defines over the Anderson et al. reference. Reconsideration and allowance of claim 24 is requested.

Claim 26, as amended, requires printhead control means for activating a selected one of a plurality of printing elements based on a particular combination of first, second, third and fourth control signals. Applicants submit that claim 26 patentably defines over the Anderson et al. reference for at least the same reasons as claim 24. Reconsideration and allowance of claim 26 is requested.

In light of the foregoing discussion of the claims of the invention and the cited references, Applicants respectfully submit that a full and complete response to the Office Action is provided herein, and that all of the pending claims are now in condition for full allowance. Action in accordance therewith is respectfully requested.

Application No. 10/765,513


If the Examiner identifies further issues that may be resolved by telephone, the Examiner is invited to contact the undersigned at (865) 546-4305.

In the event this response is not timely filed, Applicants hereby petition for the appropriate extension of time and request that the fee for the extension along with any other fees that may be due with respect to this paper be charged to our Deposit Account No. 12-2355.

Respectfully submitted,

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